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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,417	02/25/2002	Michael Guggemos	009-02	3276

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PHILADELPHIA, PA 19103

EXAMINER

DUDA, KATHLEEN

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,417

Applicant(s)

GUGGEMOS ET AL.

Examiner

Kathleen Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (US Patent 5,294,519) or EP 017864.

Mori teaches a process of preparing a printed circuit board. A photoresist is coated onto a copper-clad base plate. The photoresist is exposed and developed to form a pattern is then used as an etching mask for the copper. It is taught that a corrosion-prevention treatment occurs between the cladding and application of the photoresist layer. Column 6, lines 25-40, teaches the corrosion-prevention treatment which comprises treating the substrate with a nitrogen-containing heterocyclic. Column 7, lines 11-18, teaches the development of the photoresist layer and column 7, lines 48-68, teaches the etching of the copper layer.

EP 0178864, teaches forming a copper through-hole printed circuit board. A pattern is formed on the copper layer and the substrate is dipped

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in alkylimidazole before etching the copper. See page 10, line 15 to page 11, line 3.

Therefore, it would have been obvious to one of ordinary skill in the art to have formed a protective layer on a metal layer before etching the metal layer because Mori and EP 0178864 teach using a protective layer which is patterned to etch a metal layer.

The Meyer reference has been removed from the rejection. Meyer was used for its teaching of laser ablation. Claim 4 which recites the use of a laser has been removed from the rejection.

Applicant argues that the cited references teach a different process than claimed with the protective layer being stripped by UV radiation. Applicant argues that the laser breaks up the protective layer into the gas phase which is then exhausted. This is not claimed. The claims, as currently recited, read on a process where a photoresist layer is exposed to UV radiation and then removed by a liquid developer. It is suggested the claims be amended to recite the laser irradiation or more clearly state the removal process.

Allowable Subject Matter

3. Claim 4 is allowed. Claim 4 recites using a pulsed excimer laser to remove the protective layer. This is not taught by the references used in the art rejection.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


5. Any inquiry concerning this communication should be directed to Examiner K. Duda at (703) 308-2292. Official after final FAX

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communications should be sent to (703) 872-9311, all other official FAX

communications should be sent to (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist at (703) 308-0661.


Kathleen Duda
Primary Examiner
Art Unit 1756